

Name: _____

This review is not comprehensive. Be sure to study your notes, homework assignments and old tests as well.

1) Which equation is equivalent to $y = 10^x$?

A) $y = -10^{-x}$

B) $y = 10^{-x}$

C) $y = \left(\frac{1}{10}\right)^x$

D) $y = \left(\frac{1}{10}\right)^{-x}$

2) The expression $(a^2)^3$ is equivalent to

A) a^5

B) $2a^5$

C) a^6

D) $3a^2$

3) The product of $3x^5$ and $2x^7$ is

A) $5x^{12}$

B) $6x^{12}$

C) $6x^{35}$

D) $5x^{35}$

4) The expression $\frac{8t^3s^{-5}}{4t^{-1}s^2}$, where $t \neq 0$ and $s \neq 0$, is equivalent to

A) $\frac{2t^4}{s^7}$

B) $\frac{2s^7}{t^4}$

C) $2t^2s^3$

D) $\frac{2t^2}{s^3}$

5) Simplify: $\frac{3^{x+2}}{3^x}$

A) $\frac{1}{9}$

B) $-\frac{1}{9}$

C) -9

D) 9

6) Simplify: $(5y)^0$

7) Simplify: -4^{-2}

8) Simplify: $(-2b^2)^2$

9) Simplify and express with positive exponents: $4b^{-2}$

10) Simplify: $c^{2x} \cdot c^{3x}$

11) Simplify: $(x^n)^3(-5x^n)^2$

- 12) Evaluate: $4^{\frac{3}{2}}$
- A) $\sqrt[3]{64}$ B) $(\sqrt{64})^3$ C) $\sqrt{64}$ D) $\sqrt[3]{16}$
- 13) If x is a positive integer, the expression $4x^{\frac{1}{2}}$ is equivalent to
- A) $4\frac{1}{x}$ B) $4\sqrt{x}$ C) $2x$ D) $\frac{2}{x}$
- 14) Express with rational exponents: $\sqrt{3x}$
- 15) Express in radical form: $(2y)^{\frac{2}{3}}$
- 16) What is $\frac{3}{2+3i}$ expressed with a rational denominator?
- A) $\frac{6-9i}{13}$ B) $\frac{-6+9i}{13}$ C) $\frac{-6-9i}{13}$ D) $\frac{6+9i}{13}$
- 17) The multiplicative inverse of $3-i$ is
- A) $\frac{3+i}{8}$ B) $\frac{3-i}{8}$ C) $\frac{3+i}{10}$ D) $\frac{3-i}{10}$
- 18) Simplify in $a+bi$ form: $\frac{3}{2-3i}$
- 19) Solve: $16^{x-\frac{3}{4}} = 4^{3x-5}$
- A) 2 B) -2 C) $-\frac{7}{2}$ D) $\frac{7}{2}$
- 20) Solve: $27^x = 9^{x+2}$
- 21) Solve: $2^{x+3} = 64$